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SUBJECT: U.S. COMPANIES AND AIR NEW ZEALAND TEST AVIATION BIOFUEL

¶1. December 30, 2008 Charge represented the Embassy, the Foreign Commercial Service and the U.S. Government generally at an Air New Zealand (ANZ) test flight of a new biofuel at Auckland International Airport. UOP, a U.S. subsidiary of Honeywell, has developed a biofuel from a tree called jatropha in conjunction with Boeing, Rolls Royce, and ANZ. In this test, a 50/50 mixture of UOP's jatropha jet fuel and ordinary petroleum-based jet A fuel powered one engine on an ANZ 747 during the test flight. After about two hours of various tests, the engine and fuel were confirmed to function completely normally. (12/31/08 Embassy press clips, emailed to EAP/ANP, provide media reporting on the event.)

¶2. The jatropha tree produces nuts which can be pressed to yield an oil which is then refined into jet fuel. It is designated a second generation biofuel because it does not displace any food crops or forest. The tree grows in semi-arid conditions. It can therefore be planted in areas of marginal use. Jennifer Holmgren, a chemist and General Manager at UOP, who represented her company at the test, said that there were plans to plant jatropha along the edge of the Gobi in a test to combat desertification.

¶3. ANZ Chairman Rob Fife told those watching the test that the airline is now working with UOP, Boeing and Rolls Royce to assess whether it will be possible to grow jatropha trees and build a refining capability of sufficient scale to make the use of this 50/50 blend commercially viable. If so, this could be a ground breaking development. Apparently, jatropha is the only second generation biofuel that could be commercially available as soon as the next three to five years.

¶4. This test was a good reminder of the role that U.S. companies and their international partners play in combating climate change. It comes at an interesting moment in the development of alternative fuels. Other airlines, including Virgin Atlantic and Japan Airlines, are also engaged in testing biofuels, although ANZ may have the most ambitious and realistic approach to bringing such fuels on line. In addition, another NZ company, "Aquaflow Bionomic," announced in December 2008 that it had developed a process to refine Synthetic Paraffinic Kerosene (SPK) from wild algae, which could be blended with Jet A-1 fuel to power jet aircraft. The algae is found in local sewage oxidation ponds, and the company used a technology also from UOP. Second, December 22, 2008 New Zealand's new National Government passed through the Parliament a bill repealing the Biofuels Obligation Act (BOA), which the Labour Government had passed just prior to the November 2008 national elections. The law would have required the introduction of vehicles in New Zealand to be powered with a blend of biofuels with petrol and diesel effective October 1, 2009.